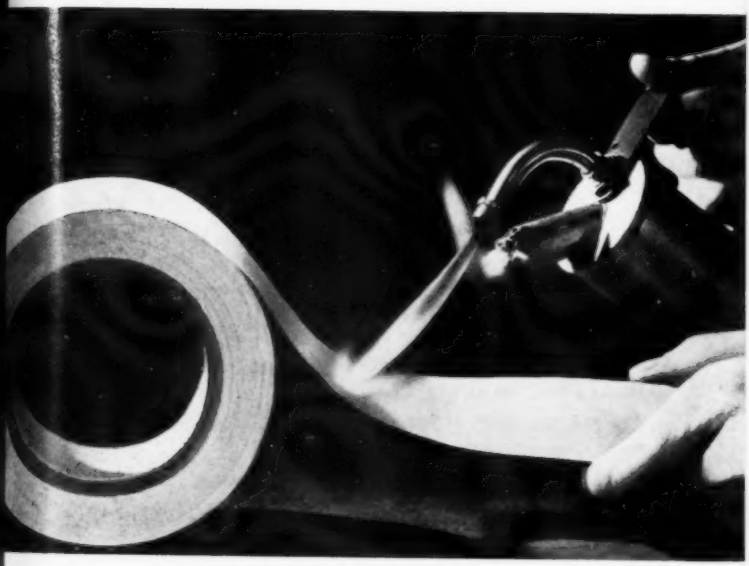
ASBESTOS



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"ASBESTOS"

FOUNDED IN JULY 1919 AND PUBLISHED
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ENGINEERS OF HUMAN COMFORT

During the past month the American Society of Heating and Ventilating Engineers held its 55th annual meeting in Chicago. The President of the Society, Prof. G. L. Tuve of the Case Institute of Technology, in announcing the dates of the meeting called the members "engineers of human comfort", and the term struck us as particularly apt.

It started us wondering, in fact, how many firms in this country were chiefly concerned in making people comfortable. We can think of several advertising slogans which stress the idea of comfort. We hear repeatedly of "ideal working conditions" which means, simply, "comfortable working conditions". The automobile industry aims constantly to make riders and drivers more "comfortable", according to the advertisements of the car manufacturers.

Comfort is highly stressed in this country—in fact is there any other country in the world where so much attention is paid to comfort of the middle or working classes?

Possibly some would argue that comfort makes our people "soft." We don't agree. Make the surroundings comfortable and more and better work will result.

The "engineers of human comfort" can do much to better the quality and increase the quantity of work turned out.

THE KITTEN

Walking to the office a week or so ago, I stopped at a crossing to wait for the red light to turn green and for the traffic to go by.

At that particular point there is much traffic in the early morning and all of it is in a hurry.

As I stood there I saw crossing the street coming toward me, a small black and white kitten. I held my breath for I was certain the kitten would be crushed under the wheels of one or the other of two taxies coming up the street. But no, the first taxi swerved to avoid the kitten and went rapidly on its way. The kitten continued to cross the street and the second taxi stopped and waited until

kitty got safely to the curb, incidentally holding up a private car and two large softdrink delivery trucks. No one said a word of protest; all breathed a sigh of relief when the kitten reached the curb in safety.

As the light turned green I proceeded on my way, but with a proud and grateful feeling that I was privileged to live in a country where even the life of an alley kitten was deemed precious.

THE COVER

Nothing was said in our January number about the new picture on the cover (repeated on this February cover). Several people have remarked on its effectiveness, and some readers have written us to ask what Quinterra Paper is, who makes it and where they can obtain more information about it. Perhaps there are others who would like to know but haven't had the time nor sufficient urge to write us about it.

Quinterra is the newest asbestos product on the market, was developed and is being manufactured and marketed by Johns-Manville Corporation; is described as an asbestos-base, completely inorganic electrical insulation. But if you have a copy of our August 1948 number turn to page 12 and read the whole story.

Incidentally if you wish to examine this unique product, Mr. S. V. Dillon, Manager of the Electrical Department, Johns-Manville, 22 E. 40th St., New York 16, N. Y., will gladly send you samples, especially if you tell him that you are a reader of "ASBESTOS".

We think the photograph the best we have ever used on our cover and will probably continue to use it for several months with various colors as a sort of background which will bring out the highlights of the picture.

. . . —

Character is like the foundation to a house—it is below the surface.

. . . —

You cannot do a kindness too soon because you never know how soon it will be too late.—Ralph Waldo Emerson.

ASBESTOS IN CORE SAND

In 1940 the subject of the use of asbestos in core sand was brought up by some of our readers, and at that time (see the May, July and December 1940 issues of "ASBESTOS") a decision was reached that "while the core mixture does feel smoother when asbestos is used, the addition of the asbestos reduces the strength of the baked core because of the absorption of oil by the asbestos."

The subject was then dropped, until a few weeks ago we came across an article in the September 1948 number of the American Foundryman[1] by J. W. Horner, Jr., Vice President of The Slack-Horner Brass Mfg. Co., Denver, Colo., under the title "Asbestos Additions Improve Nonferrous Foundry Sands."

We believe this article worth reprinting and the American Foundryman has given us permission to do so. It follows:

A bronze cylinder casting, which had given considerable trouble, led to the first use of asbestos as an addition to the molding sand in this nonferrous foundry. At first used on an experimental basis, it proved to be so satisfactory that all sands in the author's foundry now contain about 10% (by volume) of asbestos.

Asbestos-containing sands can be used with any standard handling (mixing) equipment. In this foundry a muller, a gyratory riddle, and a cutter machine for mixing and reconditioning the sand have been used, and no difficulty was experienced with any of the methods. The only thing that would cause inconvenience is the use of very fine riddles for facing sand. Some of the asbestos would cling to the screens in this case unless it would pass thru in the vertical position. However, even in this extreme case, the smaller fibres do pass thru, and the facing sand probably contains sufficient asbestos to provide the advantages. No difficulty has been experienced with riddles providing the screens are ⅛ in. or coarser in mesh. For mixing, the gyratory riddle has ½ in. mesh, and the reconditioned sand passes thru without difficulty. Hand mixing can also be used by small shops and for cores.

The bronze cylinder casting presented many difficulties. Defective castings caused terrific loss both in the foundry and in the customer's machine shop. Casting after

[1]The American Foundryman is published at 222 W. Adams St., Chicago.

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Canadian Johns-Manville Limited
814 Sun Life Bldg. (Telephone: Marquette 2421) Montreal, P. Q., Canada

casting would be rejected because of scabs, blows, cracks, and gassing. Probably 50 systems of gating and risering were used, with approximately the same percentage of rejects resulting in each case.

Dimensions of the casting were 14 in. in diameter with a 7/16 in. wall, and on the inside were four heavy ribs, about one inch square in section, running the full 6 in. length of the casting and spaced 90 degrees apart. In between these ribs were four smaller ribs, about ¼x½ in. in section, also running the full 6 in. length of the casting.

At first the trouble was with cracks at the joints of the heavy and light sections. This trouble was overcome by the use of chills about one and a half times the heavy section, rammed up against every heavy section. The castings were machined on the outside and radial slots or grooves were cut entirely thru the cylinder from the outside to the ribs so that the casting became a series of thin rings, 14 in. in diameter, held together and spaced by the ribs.

Most of the trouble was due to shrinkage. After the machining, shrink cracks would appear on the rings. The appearance of the crack indicated that both the outside and inside of the cylinder chilled rapidly, but that the center of the section, without feeding, would open up in a large crack parallel to the circumference.

Asbestos was added to the sand in varying proportions, as high as 50 per cent by volume being used. The shrinkage disappeared completely when the castings were poured by a riser-fed system, and sound castings were also obtained with the use of a pressure gate when the pressure was retained. It was noted that the metal remained liquid in the open risers at least twice as long as in the usual sand mold. Of course, unforeseen difficulties were expected in the castings poured into the sand-asbestos mold, but the other advantages gained by the use of asbestos were even more surprising.

It was found that the tendency to scab or wash was practically eliminated. Even flat, wide areas, that often must be skin-dried, no longer "buckled" or scabbed in the "green" condition. This advantage probably was due to the fibre of the asbestos acting as reinforcement to the

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sand, in somewhat the same way as concrete is strengthened by steel rods. On one job alone requiring skin-drying, 10 hours of drying time was saved on molds for 20 castings.

Another advantage noticed was the increase in refractory properties. Castings that hitherto would "burn-in" or search, no longer did so in the Asbestos molds.

Average asbestos content was about 10 per cent by volume, and even heavy castings cleaned up well. The elastic properties of the asbestos sand probably helped in that respect. There is more tendency for a natural bumping effect without cracking of a hard mold surface. The explanation may be that this "give" prevents metal penetration behind the mold surface.

It was an experience to see the way in which the asbestos was distributed on the mold surface. That distribution was remarkably even. Small white speckles clung to the surface of bronze castings like thousands of tiny dots, and were easily brushed off. These particles did not cling on aluminum castings, but the surface was even smoother than that produced with the aluminum sand mixture previously used.

Asbestos in the molding sand increases the collapsible properties. Asbestos fibres are soft and pliable, and they allow sands to contract without cracking.

Boxes or cylinders with thin sections are likely to crack upon solidification if the core which they surround does not give. This is especially true of aluminum alloys, as aluminum is brittle at high temperatures and the linear shrinkage considerable. Leakage in bronze valves, and pressure vessels may also be attributed to lack of collapsibility. This subject also will be covered a little later, when cores are discussed.

We made the following tests on some of the sands for comparison of physical properties:

Local Sand (new, used only for a few days for aluminum work)

Permeability	15.7
Compressive strength, psi	4.5
Moisture, per cent	7.8
Average Fineness	143.7

Altho good results are obtained when this sand is used

VARIETY

Variety may be the spice of everyday life, but it can be the bane of any manufacturer's existence. For variety in manufacturing requires diversity of skills. It entails a multiplicity of problems. It imposes a thousand penalties.

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for aluminum or for facing only in brasses, the sand has a low sintering point and the strength breaks down and permeability decreases over a period of use for brasses and bronzes.

New Local Sand (Asbestos 10 per cent by volume)

Permeability	13.8
Compressive strength, psi	8.0 to 9.6
Moisture, per cent	7.8
Average Fineness—Same except added asbestos	

This second test would seem to indicate that the permeability was lowered by the use of asbestos. However, it was not as low as that of a good eastern sand that produced castings with an acceptable surface.

New Eastern Sand (considered a very good sand for medium size bronze castings)

Permeability	12.2
Compressive strength, psi	5.4
Moisture, per cent	8.4
Fineness	161.50
Clay, per cent	9.98

The Eastern sand has much better wearing qualities than local sand and because it has a higher sintering point and probably does not have so much fine material.

To show the wearing qualities of the asbestos-local sand mix, a used sand was tested after a month of use.

Local Sand (10 per cent asbestos by volume, used very hard for 1 month)

Permeability	15.2
Compressive strength, psi	4.8
Moisture, per cent	7.6
Average Fineness	131.89
Clay, per cent	9.6

This last sand had had hard use with heavy castings, the heaps being used over and over about four times a day, 5 days a week. It will be noted that altho the strength decreased somewhat, the other properties are in the desirable range. The lack of strength is probably due to the gradual removal of the asbestos from the heaps by adherence to the surface of the castings. Also, in this test there seemed to be an increase (about 20 per cent) in the grains on the 200-mesh screen. However, all other finer particles remained in about the same percentage. This shows a probable breakdown of the large sand grains due to a low sintering

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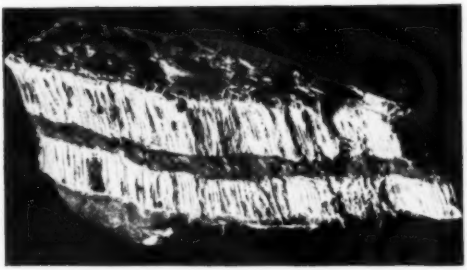

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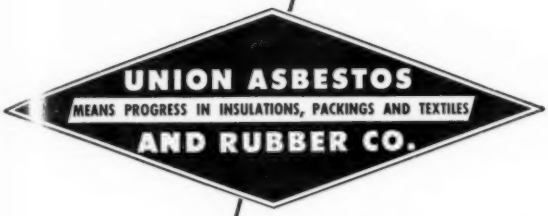
point, or perhaps particles picked up during hard use of the sand. However, there is no doubt but that the life of the sand was increased because of the asbestos. Previously, the shop had never been able to operate without constant daily additions of new sand in order to obtain even fair results from the sand heaps.

Local sand is a fine sand with considerable silt and fines—in general, a low grade all around sand for brass and bronze. Results of the tests indicate that the local plus asbestos is probably slightly superior in strength and permeability to No. 2 Albany sand, and the castings have a smoother surface. The casting surface is comparable to castings produced in about No. O Albany sand. It also seemed that the sand had good durability. Of course, new sand and asbestos were added at regular intervals, but no appreciable weakness was noticed even when the sand had a definite black burned-out appearance.

The local sand mentioned in this article has one great advantage in that it is low in cost. The desirable Eastern sands, while nominally priced, cost from $13 to $20 per ton after adding shipping charges to the Western part of the country. The local sand is not dependable in composition, and it breaks down with constant use. Altho the structure of the sand grains has not been investigated, it might be suspected that the grains disintegrate with use and have a low sintering point. Nevertheless, the fact remains that this foundry has been able to obtain four times the previous life of the local sand by the addition of asbestos and the casting results have been satisfactory.

Remarkable results were obtained by the addition of asbestos to core sands. At first, asbestos was added only to core sand for aluminum castings. About 30 per cent (by volume) of asbestos was used, and this was later reduced to about 20 per cent. The sand was a local silica sand (rather fine grained) with core oil as a binder. Satisfactory cores were obtained with a sand-oil ratio of 100:1.

The cores made were for aluminum gas burners, and had to be supported by unusually small core prints. The cores made in this way were sprayed with a molasses-water mixture in order to form a solid surface skin. The cores



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were lighter, did not blow in any case, and knocked out of the castings readily. The venting, also, was good. No special precaution was taken and, of course, due to the low oil content but little gas was created. The cores handled nicely after baking, and did not show warpage or weakness, even tho they were delicate. The fact that the cores were completely surrounded by metal gave the best test for collapsibility, as the castings showed no leakage tendencies.

Asbestos additions to core sands for brass and bronze were tried with good results. It was possible to reduce the oil consumption one half and produce strong cores of better collapsibility, elasticity, and venting qualities.

Another advantage of asbestos in sand cores is that core can be produced without minute cracks or fissures, thus preventing the metal from searching into them and forming rough fins. This elastic property should be an excellent preventative of burned-in cores. Valve cores having greater collapsibility would tend to promote pressure tightness in castings because of less structural strain.

As nearly as the author can determine, asbestos has been used in the foundry only during the past few years. Asbestos bottom boards and core-drying plates are gaining new users every day. The plates are manufactured of asbestos, bonded and produced under high pressure. The boards warp but little in use, and are excellent core-drying plates for that reason, as well as the fact that the low conductivity of heat keeps a core from burning or baking too fast against the drying plate, as is sometimes the case on metal dryers.

The form of asbestos that the author found most practical for molding and core sand use is known as "asbestos shorts". The cost of this material is about $50.00 per ton at the mines. However, since asbestos is quite fluffy (resembling rock wool in appearance) there is a large volume in a ton of the material. For experimentation purposes the prices paid for small quantities ranged from $3.00 to $4.00 per 100-lb. sack. A 100-lb. sack of the material is sufficient to care for a 2000 lb. sand pile.

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Asbestos paper has been used in various ways to protect cores and chills when "burning-in" tendencies are noticeable. Some heavy castings search or "burn into" the pores of the cores, and in such case core removal is almost impossible, or many hours being required to knock out such cores. By wrapping the cores with asbestos paper, the burning-in can be eliminated.

A recent article, published in pamphlet form, described how asbestos paper was used to prevent the sticking of steel chills in a cast iron wheel. The foundry mentioned was having difficulty with a cast iron wheel which contracted around a wheel-axle chill. Altho the chill was tapered and coated with graphite, it was frozen and sometimes fused into the casting.

The problem was solved by splitting the chill longitudinally and inserting a piece of asbestos paper between the halves. The paper acted as a cushion and provided collapsibility when the casting closed around it. This little experience seemingly would indicate the value of asbestos in the construction of permanent cores for permanent molds.

It is also evident that asbestos paper could be used to advantage when very searching metals bite into the mold surfaces. Possibly the paper could be rammed-up with the pattern and pinned into place to actually form the mold wall.

Sometimes an expensive casting can be repaired by a foundry welding practice known as "burning on". In this method, the defective part of a casting is surrounded by molding sand and a small tube or sprue is taken to the defective area, a runoff basin being connected outside of the sprue. Metal then is poured into the sprue, melting the defective area and replacing it with new, clean metal which fuses into position, while the excess metal runs into the runoff basin.

The author does not wish to paint a picture of asbestos as a "cure-all" for foundry problems. Nevertheless, he believes that it can be very useful.

Altho this article is based only on experience in a non-

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ferrous foundry, the writer believes that, in some degree, the same advantage could be obtained in both steel and iron foundries. Where great collapsibility of cores is required, it is believed that asbestos would work well in iron or steel. If good insulation is required, an asbestos-rich sand should be advantageous around the heavy risers of steel castings.

THE ASBESTOS CEMENT PIPE AND THE EARTHQUAKE

Here's a "service tale" that is quite unique and remarkable.

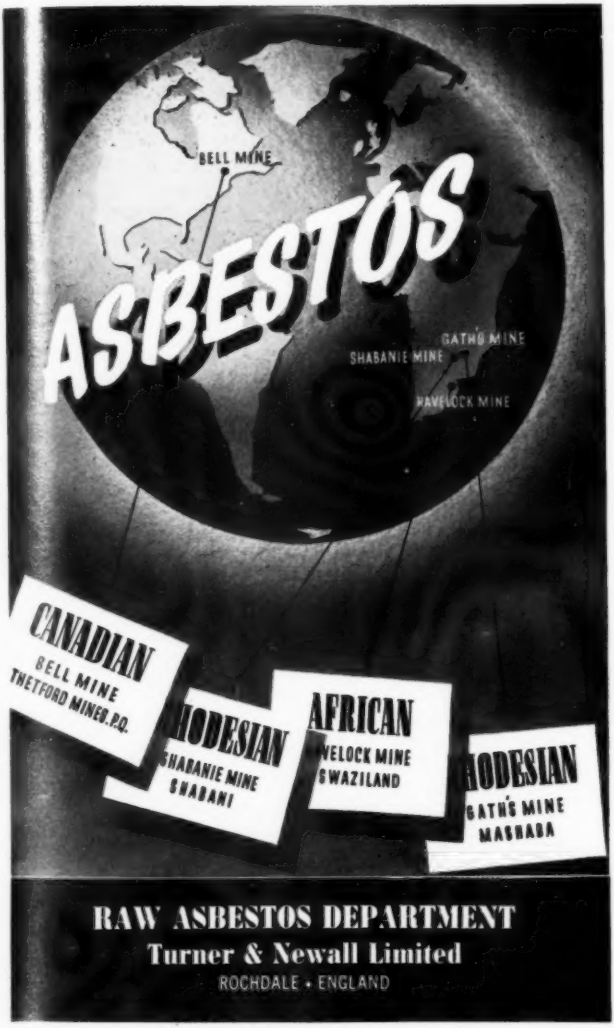
At a Naval test station located at Inyokern, California, which is practically in the middle of the desert (about 30 miles west of Death Valley), there was installed several years ago, 300,000 feet of Asbestos-Cement pipe of Johns-Manville manufacture. The pipe sections, about 25,000 of them, were joined by what is known as a "flexible joint" or "Simplex coupling".

How flexible the joints were was fully demonstrated two years ago when a severe earthquake occurred.

The location of Inyokern makes the water system particularly important—and about 12,000 people work and live there. Therefore as soon as the earthquake had subsided the Commander in charge of the Naval test station sent out his entire plumbing crew to repair the expected breaks in the water mains. But after searching thoroly not a single break could they find, either in the pipe sections, or a single leak in any of the couplings used in assembling the pipe. Subsequent careful check of pressures and measurement of water levels confirmed that the lines had remained intact.

Since the earthquake the water system has been enlarged and about 400,000 feet of asbestos-cement pressure pipe in now in use.

Editor's Note: The information contained in this article was taken from the Winter Issue of the J-M Power Specialist. The data was released only recently by the Navy.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ASBESTOS RESOURCES OF JAPAN

Geology

(Third in the series taken from Report No. 115, issued by the Supreme Commander for the Allied Powers, Natural Resources Section.)

Detailed geologic maps of the producing areas are not available. Few of the mine owners have more than crude outlines of their workings. The producing areas are covered with soil and vegetation, and prospecting has been by shallow pits and trenches. A few of the mines have done some scattered core drilling, but nowhere have ore bodies been systematically blocked out.

An irregular belt or zone of serpentine rocks extends north-south thru central Hokkaido on the west flank of the main mountain range. Most of Hokkaido's asbestos is obtained from this zone, especially near the contacts of the serpentine intrusives. Some of the asbestos-bearing serpentine masses intrude the Kamuikotan system of questionable age and others intrude known Mesozoic rocks. This serpentine area also contains the Hokkaido chromite deposits.

Asbestos in the Kyushu and Honshu districts occurs in ultrabasic rocks.

Professor J. Suzuki, Hokkaido University, has made an extensive study of the chrysotile asbestos deposits of Hokkaido and Niigata prefectures and the amphibole asbestos of Kumamoto Prefecture. The following discussion is based on his treatment of the subject supplemented by the authors' field observations[1].

The Hokkaido chrysotile asbestos occurs as irregular veinlets of cross-fibre in intensively serpentinized rocks. The widest veins occur in the Yamabe district, where fibres as long as 2.5 centimeters have been found. Except for length, the fibres from the Yamabe district compare favorably with the great Canadian deposits in quality. However in the Asahi and Tobetsu-Takara groups, most of the fibres are hard and brittle. This is probably due to the presence of minute flakes of talc between the asbestos fibres.

[1]D. E. Lee and R. D. Semple, scientific consultants, Mining and Geology Division, Natural Resources Section.

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Prof. Suzuki's investigation indicates that these chrysotile asbestos veins were formed after serpentinization of the ultrabasic rocks. The chrysotile formed as a result of the reaction between the ultrabasic wall rocks and hydrothermal solutions ascending along the fractures and is best developed near the margins of the serpentine intrusive where the cracks dominate. These hydrothermal solutions were probably a late phase of the igneous activity which resulted in the initial intrusion of the ultrabasic rocks. Finally the initial veinlets were widened by growth of the cross-fibres. The asbestos veinlets are as much as 10% of the serpentine mass in rich portions, but the average is much less and requires hand-sorting and cobbing before processing.

The area of the Niigata mine is composed mainly of the Misaka Tertiary series, intruded by quartz-diorite, serpentine and various dike rocks. The Misaka series consists of sandstone, shale and quartzite. The asbestos zone occurs in the serpentine and strikes generally north-south with an outcrop area about 50 meters long and from 35 to 50 meters wide. The best fibres are almost a centimeter long but most of the fibres are less than one-fifth of a centimeter in length. Occasionally as much as five per cent of the ore is fibre. Veinlets of picrolite cross some of the chrysotile veins.

The Seimi mine area in Shimane Prefecture also produces chrysotile, but details of the geology are not known.

In the area of the Meiji and Sakaegamikomei mines, Nagasaki Prefecture, the general trend of the asbestos belt is north-south. A thickness of sediments was tightly folded and faulted in this area, and as a result of this deformation, a quartz-mica schist was formed by dynamic metamorphism. Associated with this folding was the lit-par-lit injection of a magnesium intrusive along this particular zone of faulting and weakness. Reaction of the intrusive with the sediments has developed much talc and a mineral which is probably chlorite. Small garnets are found in this latter mineral. The asbestos occurs as slip fibre in the region of faulting and intrusion and appears to be tremolite with some actinolite.

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The bedrock of the district surrounding the Kondo mine, Kumamoto Prefecture, is the Ryoke gneiss of unknown age, which is cut by small masses of injected peridotite. Some of these masses are as much as 150 meters wide and 500 meters long, but most of them are much smaller. The peridotite masses trend N60°W, parallel with the gneissic structure and, where unaltered, are composed mostly of olivine and rhombic pyroxene phenocrysts. Within the peridotite masses, pyroxenes or amphiboles are sometimes segregated in patches. Post-intrusive hydrothermal action has altered some of the pyroxene and amphibole aggregates to asbestos, which occurs as irregularly radial aggregates of white to grayish-white fibrous anthophyllite. The fibres are from one to two centimeters long and are intercalated with talc and hornblende. The Kondo mine is an irregular area 120 meters long.

Editor's Note: While the report No. 115 contains much other data, we believe the two articles as published in our December and January numbers and the one above, give the highlights and the most useful data.

Note No. 2: 1 meter equals 39.37 inches; 1 centimeter equals 0.3937 inch.

FOR SALE

Corrugating machine and other equipment for manufacture of pipe coverings, or will sell as going business with low rental of building in Newark, N. J. H. H. Otto, 164 Fourth St., Newark - HUmboldt-2-1394.

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Producer of Asbestos-Cement Goods

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PRECISION MOLDED

85% MAGNESIA INSULATION

"THE DEPENDABLE STANDARD—MODERNIZED"

REG. U.S. PAT. OFF.

U.S. Patent Nos. 2,111,374, 2,209,752, 2,209,753, 2,209,754

PABCO

THE PARAFFINE COMPANIES, INC.

INSULATION DIVISION

(Formerly Plant Rubber & Asbestos Works)

475 Brannan Street

San Francisco 19, California

ENGINEERING UNITS IN PRINCIPAL CITIES

ASBESTOS PRODUCTION

VII. Australia

Little of the real history of the discovery of asbesto in Australia is known, who first found it or where, altho deposits of asbestos in various parts of the country have been known for a very long time. Fritz Cirkel in his book "Chrysotile Asbestos" published in 1910 refers to the serpentine belt in Queensland, where he says asbestos has been known for many years. It is found in practically every state in Australia, and is, for the most part, good quality chrysotile. Our exhibit includes specimens of material which are very long (four or five inches) and silky in quality. Anthophyllite and actinolite are also found in several localities. Most of the deposits have been worked only spasmodically, probably because many of them occur in isolated locations, or places where the working conditions are difficult—in the hot Pilbarra District for instance.

Another reason might have been that Australia did not go into the manufacture of asbestos products seriously until fairly recently. Her imports of raw material for the fiscal year of 1935-36 for instance totalled 5,565 long tons, 3,416 of which came from the Union of South Africa, while her exports of asbestos manufactured goods in the same year totalled £68,886, of which £25,000 was packing, and of which £47,000 came from the United Kingdom.[1]

During the last several years much interest has centered around the deposits of blue or Crocidolite material found in the Hamersley Ranges of Western Australia. Report No. 49, written by K. J. Finucane, Senior Geologist of the Aerial Geological and Geophysical Survey of Northern Australia, and published in 1939, covers the geology of these deposits in a very able manner. The development of these blue asbestos deposits has been undertaken by Australian Blue Asbestos Limited, which erected a mill at Wittenoom, Western Australia. This firm is affiliated with the Colonial Sugar Refining Company, Limited, which markets the material, thru their Building Materials Divi-

[1]From report on Asbestos, by G. E. Howling, B. Sc., published by the Imperial Institute, London in 1937.

si n. The story of this development is given in our September 1946 number.

We can find no record of the earliest discovery or production of asbestos in Australia proper altho there is mention in several reports, of asbestos being discovered in Tasmania in 1899.

Our records of production in Australia begin in 1916; there were a few tons produced and recorded in earlier years, such as 101 tons in 1900; 52 tons in 1901, 43 in 1908. We are endeavoring to obtain reports of production direct from the various Australian States and if successful the figures will of course be published immediately upon receipt. In the following are given the production figures from 1916 to 1947 inclusive.

	Tons (2000 lbs.)		Tons (2000 lbs.)
1916	40	1932	145
1917	303	1933	312
1918	3,196	1934	173
1919	276	1935	197
1920	925	1936	268
1921	1,324	1937	183
1922	831	1938	194
1923	364	1939	358
1924	87	1940	548
1925	56	1941	281
1926	123	1942	368
1927	12	1943	769
1928	13	1944	855
1929	285	1945	2,006
1930	158	1946	428
1931	143	1947	1,542

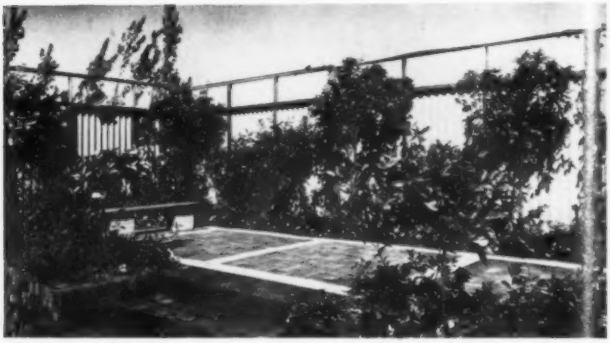
WET MACHINE FELTS

8 Brand new Drycor felts 56" wide, 43' long, composed of 52% cotton, 36% wool, and 12" Nylon staple. Thoroly satisfactory but lengthening of machine prevents our use.

SMITH ASBESTOS PRODUCTS, INC.
Millington, N. J.

DISTINCTIVE GARDEN FENCES

Using Corrugated Asbestos-Cement



Advertised by Paraffine Companies, Inc., for use as fence for gardens, Corrugated Asbestos-Cement Lumber has a decorative effect as well as specific utilitarian advantages.

Probably you have seen in various garden magazines, illustrations of Corrugated Lumber used for garden fences. Often seclusion is desired in a garden, no matter how small. Even owners of small places use their gardens as extra rooms in warm weather—for picnic suppers, or entertaining. The solid fence of Corrugated Lumber gives such seclusion. It protects from wind, furnishes an attractive background for flowers and shrubbery—is fireproof, rotproof and doesn't need painting. The photograph illustrates most of these advantages.

Exhibits at garden or flower shows find it useful as a background.

RUBBER-CEMENT

For Asbestos Packings
RUBBER & ASBESTOS CORP.
25 CORNELISON AVENUE
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ACE ASBESTOS MANUFACTURING CO.

Importers, Exporters, Processors of
Asbestos Fibres of All Varieties
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RAW ASBESTOS

for
Every Use

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CHRYSOTILE
AMOSITE
AMPHIBOLE FIBRES

originating in
U. S. A. (ARIZONA)
CANADA
RUSSIA
CHINA
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SOUTH AFRICA

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Large Capacity Fiberizing and Grading Plant

451 Communipaw Ave. **Jersey City, N. J.**

MARKET CONDITIONS

GENERAL BUSINESS

Most factors in the general business situation point to a fairly good year ahead.

Building may slide off somewhat from its unusually high level of 1948; prices appear to be receding in spots; layoffs have been reported in some places and of course the newspapers play up such news. At present however there is no indication of a sudden or wide slump.

Business has had sufficient warning so that it is, generally speaking, proceeding with caution.

ASBESTOS - RAW MATERIAL

Demand for all grades of crudes and fibres is still good altho reports from some sources indicate that the asbestos-cement products industry is not quite as brisk as formerly. In fact there has been a definite ease-off in the demand for some grades of fibre, particularly the Group 6 fibres and 7D. Manufacturers have even had an opportunity to replenish or build up some stocks in these grades.

The demand in other grades and for other purposes is holding up to peak production.

Inquiries for export are still coming in, and the temporary ease-off in the above mentioned grades has permitted additional supplies to go to foreign manufacturers where the supply situation has been extremely tight.

ASBESTOS - MANUFACTURED GOODS

Asbestos Textiles. Cloth and Roving have kept a steady pace but Tapes, Yarns and Laps have fallen off considerably. Should the Government continue its present idea of having a large stockpile of Asbestos Textiles for future emergencies, prices will hold up and the plants will be kept busy for some time to come.

Recent price increases may cause a temporary letup in placing of orders, altho it is a little early to predict the reaction because of inventories and seasonal requirements.

Asbestos Paper. There is still some scarcity of As-

bestos Paper altho the backlog of orders is not as great as it was a few months ago. Commercial demand holds up well. Practically all mills are selling full production and this condition should continue thruout the year altho 1949 volume will probably be below that of 1948.

Saturated Paper. Production has about caught up with demand. New work in 1949 will probably be less than in 1948 but re-roofing work will be greater. Production during 1949 will most likely be able to take care of demand.

Asbestos Millboard. The use of commercial millboard, according to one manufacturer, has returned to normal. In fact millboard business is about what it was before the war and will likely stay that way thru the year. Equipment business, however, is slowing up temporarily probably because consumers are not buying the items in which millboard is used. This part of the business should become more active after the first quarter.

Insulation, High Pressure. The backlog of orders is declining altho some factories report that they are 6 to 8 months behind on both pipe covering and blocks; they expect to reduce this to two or three months by the end of the first quarter. Even so, business in this line should remain sufficiently active thruout the year to keep factories at full production.

Insulation, Low Pressure. "Jobbing business" says one correspondent, "is definitely off", and gives as a reason the fear of inventory loss. Hand to mouth buying is therefore being practiced by jobbers. Insulation contractor business, however, remains active, indicating a continuation of industrial and public building activity. Prices are mixed —some plants are feeling competition while others are holding to higher prices. 1949 business will probably be "spotty"—it is the opinion of some manufacturers that a buyers' market has definitely returned.

Asbestos-Cement Products. There has been a very definite slowing up in demand for asbestos roofing and siding shingles thruout the country during the last two months There are many indications, however, that this is purely seasonal and that with increased building during the spring

and summer months the industry will again be faced with a situation where the demand substantially exceeds the available supply. The outlook for 1949 is therefore good.

Production of corrugated and flat asbestos-cement board is keeping pace with demand, there being practically no backlog at present. Indications however are that full production can be sold during 1949.

As to pipe, demand for Pressure and Sewer Pipe continues strong but there is some evidence of deferment of projects because of high construction costs. The backlog is somewhat lower than a year ago but still represents many months of production. There is a steady demand for flue pipe and a seasonal decline in house connection sewer pipe.

The above comments have been received from various executives in the several divisions of the Asbestos Industry. All comments are welcome.

WAGE RATE CHANGES

The January 1949 issue of the Asbestos Worker (published quarterly by the International Association of Heat and Frost Insulators and Asbestos Workers) shows the following changes in wage rates for pipe coverers since those reported in our August 1948 number and amended by revised rates in our November 1948 number:

Albany, N. Y.	$2.25	Mare Island (Naval Shipyard) Vallejo, Calif.	$1.78
Anchorage, Alaska	3.00	Phoenix, Ariz.	2.25
Boston, Mass	2.30	Providence, R. I.	2.20
Columbus, Ohio	2.25	Salt Lake City, Utah	2.00
Knoxville, Tenn.	2.25	Scranton, Pa.	2.12½
Lawrenceburg, Ind. (Distillery Plant only)	1.92	Spokane, Wash.	2.25
Little Rock, Ark.	2.25	Tampa, Fla.	2.12½
Long Beach, Calif. (Navy Yard)	1.78	Wilkes-Barre, Pa.	2.12½

STEEL MANDRELS

For Asbestos Cement Pipe Making Machines
Any Diameter — Quick Deliveries
"DURITE TECNICA" — TRIEST, Canava 24
Tel. address DURITE

CHEMICAL ENGINEER

Twelve years experence in research and development of asbestos-cement shingles, sheets and pipe and asbestos thermal insulations. Write Box 2W-D, "ASBESTOS", 17th Fl., Inquirer Bldg., Phila., 30, Pa.

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Thetford Mines, P. Q. Canada

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Thetford Mines, Quebec
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NEW YORK, N. Y. ..... CONNELL ASBESTOS MFG. CO.
117 Martense Street,
Brooklyn, 26, New York

SAN FRANCISCO, CALIF. ..... LIPPINCOTT CO., INC.
461 Market Street

Canada

(Department of Mines, Province of Quebec)

Production for November 1948	67,454 tons	(2000 lbs.)
Compared with November 1947	65,755 tons	(2000 lbs.)

Cyprus

According to the annual report of the Inspector of Mines[1] the following statistics are available for 1947:

	1947 (Short Tons)[2]
Rock Mined	696,254
Rock Treated	253,406
Asbestos Fibre Produced	7,490
Asbestos Fibre Exported	7,021

During the first nine months (January to September inclusive) of 1948, the following figures apply:

	Jan. to Sept. 1948 Short Tons
Rock Mined	592,623
Rock Treated	218,793
Asbestos Fibre Produced	6,607
Asbestos Fibre Exported	6,138

[1]W. Parry James, A. C. S. M., Assoc. Inst. M. M.

[2]See comparative figures for 1942 to 1946 inclusive in February 1948 "ASBESTOS", page 30.

Africa (Rhodesia)

(Published by Rhodesia Chamber of Mines)

Production for September 1948	6,489.42 tons	(2000 lbs.)
Valued at		£251,249

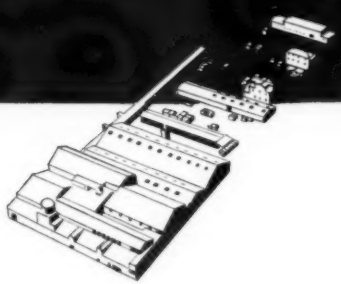
BRIEFS

¶ Twenty-three years ago a house near Kenosha, Wis., was roofed with asbestos-cement shingles. Recently the house caught fire, and had burned 2-½ hours when the firemen arrived only to find that the asbestos shingles roof had *smothered* the flames, and the roof itself was intact. Sounds fantastic but we are assured it is true.

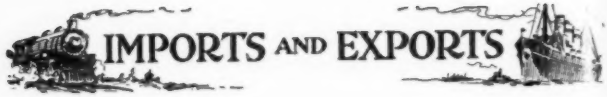
¶ Cunard White Star's 34,000-ton Caronia, newest and largest post-war passenger ship, which sailed on her maiden voyage on January 4th, has a hull insulated internally by a process of asbestos spraying, which is expected to keep out the heat of the sun's rays in the tropics and keep out the cold in winter weather.

ASBESTONE
CORPORATION

Manufacturers
Asbestos-Cement
Building Products



FACTORY AND SALES OFFICE
5372 TCHOUPITOULAS ST., NEW ORLEANS, LA.



Imports into U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos—By Countries

	October 1948 Tons (2240 lbs.)
From Canada	47,147
S. Rhodesia	705
Union of S. Africa	1,550
Mozambique	121
Bolivia	1
	49,524
Value	*$3,239,620*
By Grades:	
Crude No. 1 (Chrysotile)	
Canada	73
S. Rhodesia	67
Crude No. 2 (Chrysotile)	
Canada	26
S. Rhodesia	214
Union of S. Africa	540
Crude—Other (Chrysotile)	
Bolivia	1
S. Rhodesia	424
Crude—Blue—Union of S. Africa	218
Crude—Amosite	
Union of S. Africa	792
Mozambique	121
Textile Fibres—Chrysotile, Canada	1,797
Shingle Fibres—Chrysotile, Canada	6,345
Paper Fibres—Chrysotile, Canada	4,912
Fibre—Short Grades—Chrysotile, Canada	33,994
	49,524

	October 1948 Quantity (Lbs.)	Value
Manufactured Asbestos Goods:		
Asbestos Yarn		
United Kingdom	19,709	$15,824
Asbestos Packing—Fabric		
United Kingdom	17,112	1,801

(Continued on page 38)

ASBESTOS FIBRE SHINGLE GRADES

A NEW MODERN ASBESTOS PLANT WITH REVOLUTIONARY EQUIPMENT

Your inquiries are invited.

•

ASBESTOS FIBRES, INC.

Preparation Plant:

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Main Office:

56 CRITTENDEN ST., NEWARK, N. J.

Imports into U. S. A.
Manufactured Asbestos Goods (Continued)

	October 1948 Quantity (Lbs.)	Value
Asbestos Packing—Not Fabric		
Canada	5	21
United Kingdom	3,176	2,[illegible]79
Asbestos Woven Fabrics—Other		
United Kingdom	1,296	[illegible]98
Asbestos Brake Lining (Molded)		
Canada	3	15
Asbestos Cement Products—Not Impreg.		
Belgium	1,975	[illegible]43
Canada	289,516	23,[illegible]10
Asbestos Cement Products—Impreg.		
France	196,826	6,[illegible]54
Asbestos Manufactures—Other		
Canada	....	9
	529,618	$51,254

Exports from U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos:

	October 1948 Tons (2240 lbs.)	Value
To Canada	25	$ 4,700
Colombia	224	100,835
Venezuela	10	1,300
Ecuador	9	600
Germany	109	26,890
Other Countries	1	295
	378	$134,620

Manufactured Asbestos Goods:

	October 1948 Quantity	Value
Asbestos Paper, Mlbd., Rlbd.	Lbs. 144,280	$ 22,795
Asbestos Pipe Covg. & Cement	Lbs. 290,556	14,070
Asbestos Textiles and Yarn	Lbs. 14,465	11,674
Asbestos Packing	Lbs. 256,558	184,423
Asbestos Brake Lng. (Mld.&S-Mld)	Lbs. 223,069	170,608
Asbestos Brake Lng. (Woven)	L. Ft. 60,669	33,326
Asbestos Clutch Fcgs. (Mld.&S-Mld.)	No. 55,492	27,384
Asbestos Clutch Fcgs. (Woven)	No. 23,890	14,726
Asbestos Brake Blocks M.&S-Mld.)	Lbs. 13,068	11,356
Asbestos Brake Blocks (Woven)	Lbs. 1,722	1,420
Asbestos Sheets	Lbs. 316,248	24,603
Asbestos Roofing	Sqs. 21,838	155,595
Other Asbestos Manufactures	....	117,286
		$789,206

ARIZONA ASBESTOS

Widely used for Electrical Insulation

•

Also for filtration, spinning, chemical manufacture, as mixture with other fibers, and other industrial purposes, etc.

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Buy direct from the mine.

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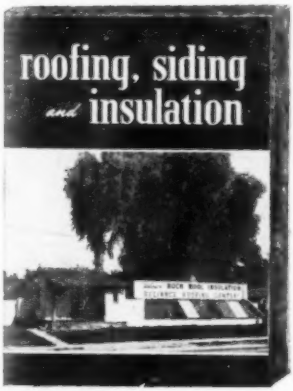
ARIZONA CHRYSOTILE ASBESTOS COMPANY

BOX 328 GLOBE, ARIZONA

Eastern Office and Warehouse

204 - 21st Avenue, Paterson, New Jersey



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of selling the nation's roofing, siding and insulation contractors!

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NEWS OF THE INDUSTRY

BIRTHDAYS

C. J. Sherer, Vice President, Treasurer and General Manager, Russell Manufacturing Co., Middletown, Conn., February 18th.

I. J. Harvey, Jr., President and Director, The Flintkote Co., New York City, February 20th.

Clarence E. Witherspoon, President, Asbestos Construction Co., Inc., New York City, February 20th.

G. W. Marshall, Jr., Director and General Sales Manager, Asbestos Products Division, Raybestos-Manhattan, Inc., Manheim, Pa., February 21st.

Robert E. Cryor, Vice President, Union Asbestos & Rubber Co., Cicero, Ill., February 23rd.

J. Albert Taylor, Vice President and Secretary, Wallace & Gale Co., Baltimore, Md., February 24th.

A. S. Johnson, President, Johnson's Co., Ltd., Thetford Mines, P. Q., Canada, February 28th.

Leonard Krez, Vice President, Paul J. Krez Co., Chicago, Ill., February 28th.

A. S. P. Sangster, General Works Manager, Wunderlich, Limited, Sydney, N. S. W., Australia, March 2nd.

John H. Matthews, Vice President, Raybestos-Manhattan, Inc., Manhattan Rubber Division, Passaic, N. J., March 3rd.

Carl Bindman, Sales Manager, Johnson's Co., Thetford Mines, P. Q., Canada, March 7th.

M. E. Curtis, President and Treasurer, Curtis Asbestos Co., Boston, Mass., March 7th.

George Ritter, Asbestos-Cement Associates, Inc., Coriell Bldg., Millington, N. J., March 9th.

P. M. Taft, President, Taft-Jenkins Co., Holyoke, Mass., March 9th.

Thomas J. Casey, Treasurer, Asbestos Corporation of America, New York City, March 10th.

W. L. Markert, President, Brooks-Fisher Insulating Co., Atlanta, Ga., March 10th.

M. R. Carr, President, H. W. Porter & Co., Inc., Newark, N. J., March 11th.

A. Lines, Superintendent Durabestos Works, Wunderlich, Limited, Parramatta, Australia, March 11th.

Harry A. Kieselbach, General Manager Insulation Department, Johns-Manville Corp., New York City, March 14th.

To all these gentlemen we extend best wishes and congratulations on the occasion of their birthdays.

• BLUE ASBESTOS

The Cape Asbestos Company, Ltd., is the world's largest supplier of acid-resistant blue crocidolite asbestos, and the only manufacturer operating its own mines. Inquiries solicited on:

MILLBOARD **YARNS**
ROVINGS **POWDER** **CLOTHS**
PROCESSED FIBRES

Unexcelled for use in
ASBESTOS CEMENT PIPES

• AMOSITE ASBESTOS

This fibre owing to its great length and bulk is unrivalled for use as an insulating medium in:

Asbestos mattress filler
85% Magnesia insulation

The CAPE ASBESTOS CO. Limited

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United States Sales Agent:
ARNOLD W. KOEHLER
415 LEXINGTON AVE. **NEW YORK CITY**
TELEPHONE—VANDERBILT 6-1477

ASBESTOS TEXTILE INSTITUTE — Elects Officers

The Asbestos Textile Institute at its recent annual meeting elected George S. Fabel, President of the Southern Asbestos Company to serve as President. Mr. Fabel has been active in promoting the affairs of the Institute since its founding in 1944.

George S. Fabel

Other Institute Officers elected to serve during 1949 are: Vice President, A. R. Byrnes of the Union Asbestos & Rubber Company; Treasurer, William C. Scott of the Keasbey & Mattison Co.; Secretary, Myril C. Shaw of Rutgers University.

The Asbestos Textile Institute is a non-profit organization, founded in 1944 to render research, technical and sales promotional services to the asbestos textile manufacturing industry. The general office of the Institute is located at the School of Ceramics, Rutgers University, New Brunswick, N. J.

OBITUARY — W. Cooling,
Treasurer of Asbestos Corporation Limited

William Cooling, Treasurer of Asbestos Corporation Limited, died January 7th, after an illness of three months. He was in his 69th year.

Mr. Cooling was born in London, England, November 3rd, 1880, and came to Canada in 1911. He served overseas with the Canadian Army in the First World War. At the end of hostilities he joined the staff of the Consolidated Asbestos Limited as Chief Accountant; and in 1926 when that Company was absorbed by the Asbestos Corporation Limited, he joined the latter organization, and was appointed Treasurer in 1943.

Mr. Cooling was a prominent figure in the community of Thetford Mines, particularly in the Church of England where he was a lay preacher and delegate to the Anglican Synod. He was also a member of the Protestant School Commission and Past Master of the Thetford Lodge A. F. & A. M.

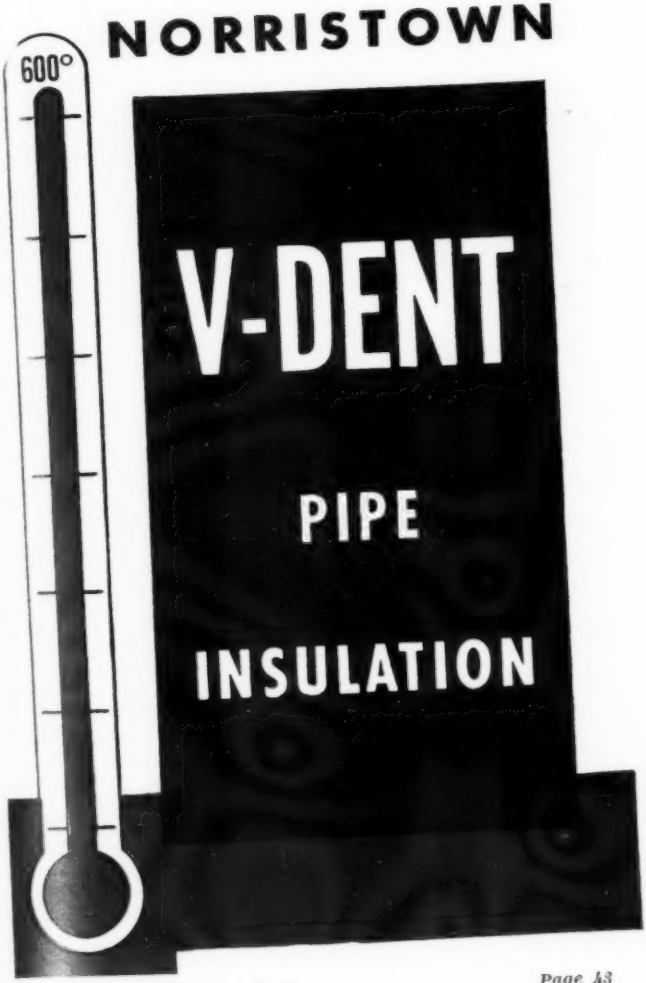
CREIGHTON HILL, PERSONNEL DIRECTOR—Bird & Son Inc.

Announcement is made of the appointment of Creighton Hill as Personnel Director of Bird & Son, Inc., to succeed Benjamin D. Rogers, who has resigned after 41 years of continuous service.

Mr. Hill was formerly Director of Industrial Relations for Bird & Son.

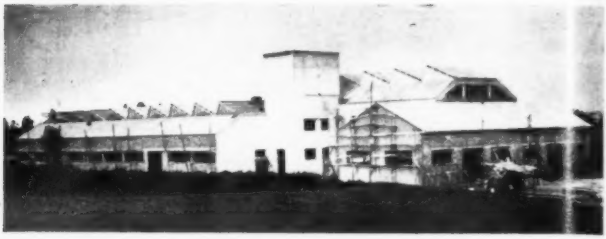
TURNER & NEWALL LIMITED — Issues Directors' Report

Copy of Directors' Report for fiscal year ending September 30, 1948 has been received from Turner & Newall Limited, the annual general meeting having been held on January 20th.


NORRISTOWN
600°
V-DENT
PIPE
INSULATION

NOVIMCO STARTS PRODUCTION

Novimco, of Rua Antonio Candido, Porto, Portugal are about to begin operations in their new asbestos-cement plant in Porto. (see illustration). Their initial operations are being confined to the manufacture of flat and corrugated sheets and molded products. They contemplate the inclusion of a pipe plant at a later date.



The plant was erected under the supervision of Engineers Jose A. R. Praca and Antonio Gaspar Teixeira. The process layout and the equipment used in this plant were designed and furnished by Asbestos-Cement Associates, Inc., Millington, N. J.

MATTHEW J. FITZGERALD—Honored

At the annual meeting of the stockholders, on January 11th, Matthew J. Fitzgerald was elected Chairman of the Board of Directors of the Michigan Avenue National Bank of Chicago.

Matthew J. Fitzgerald

Mr. Fitzgerald is well known to many of our readers, especially those in the Asbestos Paper and Insulation Industry, as President of the Standard Asbestos Mfg. Company of Chicago, Ill. He was born in Chicago on December 27th, 1901, and was educated in the Parochial Schools in that city, graduating from DePaul Academy in June 1917. He was immediately employed by the Standard Asbestos Mfg. Company as a stenographer. From that he worked his way up to Secretary-Treasurer and General Manager of the Company and later was elected President.

BUILDING OFFICIALS FOUNDATION
Elects Dahlberg Chairman of Board.

Bror G. Dahlberg, Chairman of the Board of Directors of the Celotex Corporation, has been elected Chairman of the Board of Governors of the Building Officials Foundation.

INTERNATIONAL ASBESTOS CO., LTD.—Announcement

J. C. Belisle, President of International Asbestos Co., Ltd., announced on January 21st that drilling to extend the present ore body on the Company's property at Mount St. Adrien, in Wolfe County, Eastern Townships of Quebec, would commence that week.

He also stated that the Company has been granted the privilege by the Research Center of the Polytechnic School, Montreal, to test the ore in their Laboratories' Pilot Plant. In view of this it has been decided by the Directors of the Company that it will not be necessary to erect a Pilot Mill on the property, as recommended by Prof. Bonneau of Laval University, in order to learn how best to treat the type of ore found on the property. The cost of such a mill would probably have been $75,000. thus effecting that much saving.

Mr. Belisle also points out that this will shorten the time required to bring the mine to production by five to six months. The Directors have under consideration plans for erecting a mill of 1000 to 2000 tons daily capacity if results of future drilling warrant it.

— . . .

A brochure giving information concerning the International Asbestos Co., Limited, has recently been issued. Anyone interested may obtain a copy by writing Robert Sherwood Associates, 1637 Sherbrooke Street West, Montreal, Quebec, Canada, who are acting as Agent for the Company.

NATIONAL ELECTRIC PRODUCTS CORP.

"Nationalists", house organ of the National Electric Products Corporation, published at 1300 Chamber of Commerce Bldg., Pittsburgh, 30, Pa., in its January 1949 issue published an article "Neasbestus—National's Solution for Hot Spot Wiring Problems".

The Company calls its wire and cable insulation covering "Neasbestus". Plants of the Company are located at Ambridge, Pa., and Torrance, Calif.

CAREY AGAIN MAKES
CERAMO ASBESTOS-CEMENT SIDING

Ceramo Asbestos Cement Siding has been returned to the Carey line of building materials. This material has not been manufactured since 1942 because necessary high quality raw materials were not available. Now both materials and new production facilities are available and an improved Ceramo Siding has been created.

Ceramo has a base of asbestos-cement; the ceramic coated surface is fused on at high temperatures, making it smooth and hard. Its density prevents the infiltration of moisture or dirt and any dirt that should accumulate on the surface is generally washed off by the rain.

W. H. FEHRS APPOINTED

Vice President Union Asbestos & Rubber Co.

W. H. Fehrs has been appointed a Vice President of the Union Asbestos & Rubber Company, with headquarters in the company's main office in Chicago.

W. H. Fehrs

Mr. Fehrs joined the Company in May 1928 as a member of the railroad sales department. Previous to that he was employed in the mechanical engineering department of the Union Pacific Railroad at Omaha, Nebr., for 12 years.

From 1932 to 1939 he was manager of the automotive sales of the Union Asbestos & Rubber Co., was appointed Assistant to the Vice President in 1939 and later that year was made manager of the Cicero, Ill. plant. Prior to his recent appointment as Vice President he was Assistant to the President.

JOHNS-MANVILLE REPORTS RECORD SALES IN 1948

Dollar sales and profits of Johns-Manville Corp. hit record levels during 1948. Sales totaled $173,458,933 a 29.5% increase over 1947, which were $133,885,412.

Consolidated net earnings for 1948 were $15,440,475, equivalent to $5.22 a common share.

Lewis H. Brown, Chairman, in the annual report, stated that 1948 earnings were equivalent to 8.9 cents in the sales dollar. He further stated that the company produced a record volume of goods in 1948. Products showing increases in physical volume of 10% to 18% included asbestos fibre, Transite (asbestos-cement) pipe, magnesia and Superex industrial insulations, Marinite and marine sheathing, asbestos shingles and asphalt and asbestos roofings. Production of insulation board products increased 40%.

PAUL J. KREZ CO.—Official Changes

The following changes were made in the organization of Paul J. Krez Co. on October 1st, 1948:

Leonard Krez, entering his 25th year in the Industry, became President and Treasurer; John J. Krez, formerly President being made Chairman of the Board.

Edward G. Schmid is Vice President and Miss A. H. Walter, Secretary; Alfred G. Nyberg Assistant Secretary.

WESTERN ASBESTOS BUYS
Bay Cities Asbestos Co.

Western Asbestos Company, Distributors, Engineers and Contractors, of various asbestos, insulation and other materials, with main office at 675 Townsend St., San Francisco 3, Calif., has purchased the facilities of Bay Cities Asbestos Co. of Oakland, Calif. D. Gerald Barr is Manager of the Oakland office and warehouse which is located at 251 Fifth Avenue.

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Our experienced engineers and machinists offer the industry entire machines built to deliver maximum production.

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425 Fourth Avenue, New York City

SUPRADUR IN PRODUCTION

Supradur Corporation of New York began production of Asbestos Siding at its Wind Gap, Pa., plant in November 1948. The Supradur Siding Shingle is said to contain some special features.

Samples of both white and colored shingles will be shown at the Nersica Exhibition in Atlantic City, N. J., on February 28, March 1 and 2. Inquiries should be made to the New York Office of Supradur Corporation at 110 Williams Street, New York 7.

PATENTS

This information obtained from the Official Patent Gazette, published weekly by the U. S. Patent Office, Washington, D. C.

Copies of patents can be obtained by sending 25c (in coin) to The Commissioner of Patents, Washington, D. C., giving the patent number, date it was issued, name of patentee and name of invention.

Friction Element. No. 2,457,003. Granted on December 21, 1948 to Ray E. Spokes, Ann Arbor, Mich., assignor to American Brake Shoe Co. Application July 31, 1944. Serial No. 547,523. Description upon request.

Spirally Wound Gasket. No. 2,457,694. Granted on December 28, 1948, to Stanley S. Lippincott, Palmyra, N. J. Assignor to Flexitallic Gasket Co., Camden, N. J. Application December 10, 1946. Serial No. 715,241. (Not asbestos) Description upon request.

Manufacture of Magnesium Products. No. 2,458,847. Granted on January 11, 1949 to Gunter H. Goss, Redwood City, Calif., Assignor to Marine Magnesium Products Corporation, South San Francisco. Application May 10, 1943. Serial No. 486,391.

Manufacture of magnesium compounds from a brine containing convertible magnesium salts together with solid phase and dissolved impurities, the steps of reacting the impure brine with a lime containing material to convert the magnesium salts to a magnesium hydroxide precipitate, said reaction being accompanied by formation of dissolved calcium salts obtaining from the reaction step a slurry containing a precipitate together with a portion of the mother liquor and solid phase impurities from the brine, carbonating the slurry to a degree sufficient to convert the dissolved calcium salts present to a solid phase calcium carbonate, subjecting the material to further carbonation to convert the magnesium hydroxide to magnesium bicarbonate and then removing the magnesium bicarbonate solution from the remaining sludge solids.

ASBESTOS STOCK QUOTATIONS

(These figures are compiled from the Commercial and Financial Chronicle. No guarantee as to their correctness).

		January 1949		
	Par	Low	High	Last
Armstrong Cork (Com.)	np	47	49½	47½
Armstrong Cork (Pfd.)	np	93	99	99
Armstrong Cork (Conv. Pfd.)	np	109	110½	109⅞
Asbestos Corp. (Com.)	np	25½	26¼	26
Asbestos Mfg. Co. (Com.)	1	1⅛	1⅜	1¼
Celotex (Com.)	np	23⅞	26¾	24
Celotex (Pfd.)	20	17⅝	19	18
Certainteed (Com.)	1	11¾	13½	12⅛
Flintkote (Com.)	np	25⅝	31½	26⅛
Flintkote (Pfd.)	np	98½	102	100
Johns-Manville (Com.)	np	37¾	40½	38
Johns-Manville (Pfd.)	100	107	112⅛	109
Paraffine (Com.)	np	17¾	20	18⅛
Paraffine (Pfd.)	100	102½	105	105
Ray Man. (Com.)	np	25¾	30	28⅛
Ruberoid (Com.)	np	52	55½	53¼
Thermoid (Com.)	1	5½	6¾	6¼
Thermoid (Pfd.)	50	35	38½	36¼
Union Asb. & Rub. (Com.)	5	10⅞	12½	11⅞
United Asbestos (Com.)	1	$1.10	$1.28	$1.22
U. S. Gypsum (Com.)	20	100	104½	101¼
U. S. Gypsum (Pfd.)	100	173	180	179
U. S. Rubber (Com.)	10	38¼	43	40⅝
U. S. Rubber (Pfd.)	100	123¾	133	130

. . . —

¶ Ready for distribution is the folder "2 New Johns-Manville Refractories for Service to 3000F". It presents pertinent information on 3X Blazecrete (for gunning and patching) and 3X Firecrete (for casting special shapes). If interested write Johns-Manville, 22 E. 40th St., New York 16, for a copy, mentioning "ASBESTOS".

. . . —

¶ Dewatex Manfacturing Corporation of West 42nd St. and Dyer Ave., New York City, has formed a Shingle-Seal Division, to take over the sales and distribution of its Shingle-Seal, a product developed for painting and weather-proofing asbestos shingles.

AFTERTHOUGHTS

¶ Report No. 115, Asbestos Resources of Japan, see articles in December 1948, January 1949 and this, the present number) can be obtained in mocrofilm form for $2.50, or in photostat form for $6.25. Orders should be addressed direct to Library of Congress, Photoduplication Service, Publication Board Project, Washington 25, D. C., accompanied by check made payable to the Librarian of Congress. Ask for PB No. 95647, Asbestos Resources of Japan. Such orders will *not* be handled by "ASBESTOS"; they must go direct to the Library of Congress. Mimeographed or offset copies of the report are not available in quantity.

¶ "Only *You* Can Do Your Job Safely" is the winning 1949 safety slogan out of nearly 1,000 submitted to the Manhattan Rubber Division plant at Passaic, N. J., by employees. A good slogan for all of us to adopt.

¶ In our hurried walk thru the Reading Terminal (Philadelphia) to catch a commuters' train, we notice the following names of manufacturers of asbestos products, used in the modernization program at present in progress: Johns-Manville (asbestos-cement board for partitions and electrical work); Keasbey & Mattison Featherweight 85% Magnesia; Paraffine (Plant) Insulation; Smith & Kanzler.

¶ We would like to have more information about the history of the Asbestos Mining Industry in Australia—especially of the chrysotile variety. Who first discovered asbestos in Australia, how and where? Who first mined it—and where?

¶ We read in the St. Louis Post-dispatch that Dr. Antoine Saugrain, French scientist and St. Louis physician in 1804 invented the forerunner to our present day matches—an apparatus consisting of a small bottle of asbestos saturated with sulphuric acid, together with splints coated with sulphur and tipped with a mixture of sugar, and chlorate of potash. The match heads ignited when brought into contact with the substance in the bottle. It is said that Lewis & Clark used them on their famous expedition.

BOOK LIST

The Asbestos Factbook, 16 pages. Information in compact form on origin, facts, locations, uses, analyses, qualities, 10c per copy.

Asbestos Mining Methods. By C. V. Smith. (Reprint) 16 pages. 25c per copy.

Milling Asbestos. By J. C. Kelleher. (Reprint) 16 pages. Companion article to Asbestos Mining Methods. Both should be in every Asbestos Library, 25c per copy.

Recovery of Raw Asbestos. By Roland Starkey. (Reprint) 6 pages. Supplement to Milling Asbestos. 25c per copy.

Canadian Chrysotile Asbestos Classification. Including latest Quebec Testing Method. January 1, 1949 Edition. 4 pages. 25c per copy.

Processing Asbestos Fibres. 8 pages. (Reprint) 25c per copy

Tests for Cotton Content. 4 pages (Reprint) Describing several methods of testing asbestos textiles for cotton content. 10c per copy.

Chart—Dollars Cost of Uninsulated Pipe. (Reprint) 20c each

Twelve Estimating Tables, with Chart. Convenient in figuring flange fittings and other areas. $1.00 per set.

Manual of Unit Prices (for figuring pipe covering and blocks) 35c per copy postpaid.

Asbestos: A Magic Mineral, by Lilian Holmes Strack. Written for school children but should be in every Asbestos library. $1.00 per copy.

Asbestos—The Silk of the Mineral Kingdom, by Oliver Bowles. 40 pages about asbestos, from mine to finished product, in plain language, illustrated, 25c a copy.

Order any of the above from "ASBESTOS", 17th Fl., Inquirer Bldg., Philadelphia 30, Pa. Postage stamps acceptable for amounts less than $1.00.

COMPLETE PLANTS
for making PRESSURE PIPES and CORRUGATED SHEETS
Plants designed, equipped and started. Short deliveries.
Our Engineers have had thirty years' experience in making Pipes and Asbestos-Cement sheets.
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Cable address: Durite - Trieste

CURRENT RANGE OF PRICE

As of February 10, 1949

Canada—

	Per Ton (2000 lbs.) f.o.b. Mine	
Group No. 1 (Crude No. 1)	$960.00 to	$1,050.00
Group No. 2 Crude No. 2; Crude Run-of-Mine and Sundry	400.00 to	550.00
Group No. 3 (Spinning Fibre)	232.00 to	425.00
Group No. 4 (Shingle Fibre)	95.50 to	141.00
Group No. 5 (Paper Fibre)	78.50 to	88.00
Group No. 6 (Waste, Stucco or Plaster)		58.00
Group No. 7 (Refuse or Shorts)	28.00 to	52.00

Vermont—

	Per Ton of 2000 lbs. f.o.b. Hyde Park or Morrisville, Vt.	
Group No. 4 (Shingle Fibre)	$111.50 to	$124.00
Group No. 5 (Paper Fibre)	79.00 to	90.50
Group No. 6 (Waste, Stucco or Plaster)		58.00
Group No. 7 (Refuse or Shorts)	28.50 to	52.50

Note: Crude Run-of-Mine (Canadian) refers to a crude asbestos produced in certain mines where Crude Fibre is not graded into regular No. 1 and 2 Crude. Crude Sundry refers to certain odd lots of off material which do not conform to the regular standards of No. 1 Crude or No. 2 Crude.

PHILADELPHIA'S TRADE FAIR

Philadelphia is to have a trade fair, from September 24th to October 1st, 1949. It will be sponsored by the Chamber of Commerce, and three Philadelphia Newspapers —The Inquirer, the Bulletin and the Daily News.

The Fair will be known as the Greater Philadelphia Trade Fair of 1949 and will be held in Convention Hall and Commercial Museum—where the public will see industry and business in dramatic operation. On display will be working models to tell the story of the Philadelphia area's manufacturing, public utilities, transportation, communication, banking, insurance, warehousing, shipping and merchandising.

More than 100,000 square feet of exhibition space will be available.

Further detailed information can be obtained from the Domestic Commerce Bureau of the Chamber of Commerce, Architects' Building, 17th and Sansom Sts., Philadelphia 3, Pa., Rittenhouse 6-3520.

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Keasbey & Mattison—original manufacturers of asbestos-cement roofing shingles in this country—produce a complete line of asbestos building materials: Siding and Roofing Shingles • Wallboards • Corrugated and Flat Lumber • Acoustical material.

For Industry, we offer the following all-purpose asbestos products: Asbestos and Magnesia Pipe and Block Insulations • Asbestos Electrical Materials • Packings • Textiles • Paper and Millboard • Marine Insulations.

And for the efficient conveyance of water, we manufacture "Century" Asbestos-Cement Pipe.

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Southern Asbestos Roving—a single cord of untwisted asbestos fibre—is widely used to flame-proof many types of electrical wires and cables. Carefully selecting the proper fibres, Southern cards them and condenses or rubs them to produce uniform strands of roving with maximum tensile strength.

Southern Asbestos has had over 25 years of specialized experience in developing and manufacturing Asbestos Textiles and Textile Products. Its technical and production facilities are available to solve your problems.

Southern Asbestos Roving supplied in many types sizes—in tubes, cones or cheese. Write for illustrated Folder 1003.

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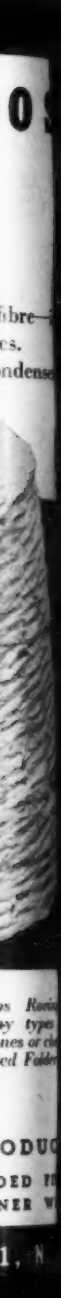
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